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ABSTRACT

This paper discusses four assumptions and four concerns regarding instruction using the World Wide Web. The assumptions address: the novice status of the Web course developer; the developer's appreciation for various aspects of the Web; her high expectations for doing it right; and her commitment to not incurring more costs for distance learners. In discussing the first concern, issues of pedagogy, the paper examines dilemmas of Web course creation, concluding that the Web is a highly verbal medium that limits student responses and demands a pedagogy that is inconsistent with meeting individual needs. The second concern emphasizes skills students need to succeed on the Web. Students who are not visual learners or who have visual difficulties, and students who do not have access, are problematic. The third concern is student retention. Only 8 of the 28 students who originally signed up actually completed the course that term. Traditional classes typically have a much higher completion rate. Finally, personal costs of using a Web based course include: significant amounts of time involved; tremendous stress in trying to complete the course within unrealistic time limits; expenditure of personal funds; and serious health problems that arise from overuse of the computer. (SM)

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ABSTRACT: ARE WE READY TO ABANDON THE CLASSROOM? THE DARK SIDE OF WEB INSTRUCTION

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AERA presentation, April 25th, 2000 New Orleans

Four assumptions/contextual aspects and four major areas of concern regarding Web instruction are discussed. The assumptions include: the novice status of this Web course developer, her appreciation of the aspects of the Web, her having high expectations for "doing it right", and her commitment not to incur more costs for students at a distance.

Issues of pedagogy discuss the dilemmas of Web course creation, concluding that the Web is a highly verbal medium that limits student responses and demands a pedagogy that is not consistent with meeting individual needs. A second issue relates to the skills a student needs to be successful on the Web. Students who are not visual learners, or who have visual difficulties, as well as those who do not have access are problematic. A third issue is retention of students. In my first section of this course, only eight of the 28 students that initially took the course completed it during that term, while face-to-face classes typically have a much higher completion rate. Finally, personal costs included a high amount of time (over 500 hours between myself and my colleague); tremendous stress in trying to complete the course within unrealistic time limits; expenditure of over $1200 of my own funds to format the course in HTML; and serious health problems that have arisen from over-use of the computer.

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I feel a bit like Darth Vader, calling you to *The Dark Side*. However, there are aspects of Web course development and instruction that may be the dark side and need to be discussed. I will begin by a sharing some assumptions/context aspects, and then discuss four major areas of concern regarding Web instruction. They include issues of pedagogy/androgogy, skills of students, retention of students, and personal costs.

Assumptions/context

1. **Novice status**: I am a naive Web user. Before developing the course, I had used the Web very little, in part due to carpal tunnel problems. I had never developed nor taken a Web course before and did not have a conception of what one might be like. I looked at several courses on the Web, had some training on distance course development through the University and Mark Merikel. I then tried to fit my still primitive conceptions of a Web course to the modular requirements for preservice/in-service Web course development that our faculty was undertaking.

2. **I do like aspects of the Web!** My views are not all negative and I do not want to leave the impression that I hate Web courses or Web information. What I find intriguing is the possibility of going deeper and deeper into something. It's sort of like an advent calendar, where you open a little door, and then you open another little door inside that little door, and then you can open a window inside that, and so forth. Of course, as we have all discovered, there is a lot of poorly written material on the Web, often by non-experts, so we must sift through it and find "the good stuff". I question whether students can discern the wheat from the chaff.

3. **I like to do it right!** It is difficult for me to do anything halfway. When I made a commitment to work on the Web course, I wanted it to be the best I could possibly make it. I wanted it to be pedagogically sound, coherent, attractive, and useful for students. Little did I imagine the amount of time, effort, and technical requirements to do so.

4. **Students at a distance should not have more costs**. In the one credit modular framework that we were developing, I felt it was unethical to ask students to spend $75 for the textbook for what could be a one-credit module. Although two one-credit modules made the course, *Foundational Perspectives in Education*, the modular format allowed both preservice and in-service teachers to benefit and to choose either one or both modules. My colleague, Judy Gelbrich, and I therefore wrote a large portion of material for the Web course. It was like writing a textbook!

Issues of Pedagogy/Androgogy

One of my primary concerns in developing this course on the Web was reaching students whose learning styles might not be verbal. I use a variety of strategies and I teach to multiple intelligences in my face-to-face classes. One aspect that I found extremely difficult to deal with was my inability to create a way for students to demonstrate their spatial/figural skills through graphic organizers, mind maps, and flow charts. Although the technical capacity might be available, I had very limited access to tech support and lacked sufficient time to figure out ways to make it possible for students to represent their learning in figural ways.

I was also concerned about social interactions that I find so central to my classroom. Although I recognize that chat rooms and threaded discussions are possibilities, I struggled with my inability to find ways to group students flexibly and fluently on the Web based on their interest of the week. For example, when students complete their choice of one of the mini-project assignments, I usually have them group by assignment to discuss what they learned. It may be my lack of the sophistication setting up such possibilities, but I do not know how to make this happen.

For bodily kinesthetic learners, I use creative dramatics to highlight periods in educational history. I also use a people search to help students understand the key people who made changes in education. I don't knowhow to make these strategies happen on the Web. One of my classroom learning experiences involves students working across domains in small groups to represent metaphorically the important forces at work in education. This involves several modalities that do not seem compatible with Web-based instruction.

The Web tasks I designed seem very dry and very wordy in comparison to the wide range of options I offer my students in my face-to-face classes. I truly struggled long and hard with what would be appropriate pedagogy/androgogy that I could actually apply on the Web. While some limitations may be due to the lack of technical support resources available to me as well as my own inexperience, I believe that the Web is inherently a verbal medium, one that does not meet the needs of all students.

Skills of Students

Related to pedagogical issues is what it takes to be successful Web student. It is evident to me that any student who is successful on the Web must be an excellent reader and writer. Of course, these are typically skills we expect for college students, but I think that students who may have tremendous abilities in other domains, such as figure or spatial thinking, musical, or logico-mathematical thinking, are penalized.

I worry about students who are not visual learners. Those students who need to hear a lecture, enact physically with others, or who need to "feel" the presence of their teacher or classmates might have difficulties being successful when confronted with a barrage of words.

Students with visual difficulties, such as astigmatism, can have a rough time focusing on all the bits and pieces that are typical on the Web. Although it is possible to keep the course text quieter, I find that the jumping of lots of segments on linking Web pages can be very distressing, taxing the ability to grasp the message.

Finally, and this certainly has been said before, I question the ethics of jumping into Web course development when too many students do not have access. I knew for example, that the migrant students with whom I work, generally live at a distance but do not have access to computers. Although certainly being able to take classes without having to travel could be a great advantage, without a computer to do the work it becomes yet another indicator of impoverished status.

Retention of Students

My two-credit all Web course, Ed 416/516 Education Foundations began with 28 students for fall term, 1999, the first time it was offered, with a cap on enrollment of 25. Only 11 completed the course fall term. Five students dropped the course within the first two weeks, six students withdrew during the term, five students took incompletes, and one student failed (he did not complete the assignments or negotiate with the instructor). Of the 11 students that completed the course, three worked one-on-one with me in reading-and-conference fashion, using the face-to-face syllabus, rather than using the Web.

Because of extended carpal tunnel problems (which I will discuss in the next section), I found I was unable to teach the course that I had spent so many months planning and developing. A colleague who was well versed in Web course delivery and who had taught the class during summer session served as instructor. I worked with her as best I could, helping with the three face-to-face students. I had been warned about the problems of distance students waiting until the last minute to complete Web course assignments. To avoid this difficulty, I assigned one task each week, giving bonus points to students who submitted work on time or early. Even with this incentive, many more students dropped out, withdrew, failed, or received incompletes than those who finished. In actuality, only eight of the starting group of 28 completed the Web course as it was designed.

Several of the students who got incompletes or who withdrew, have taken the course face-to-face with me during winter and spring terms this year. Three continued to complete the course by Web during winter term. In my typical classes of 40 to 45 students, I usually have two or three ads and two or three drops within the first two weeks of class, perhaps one or two withdrawals, and one or two incomplete students at most in a term. The level of completion for the Web course was far fewer than in face-to-face classes. My colleagues who are also teaching Web courses have found the same problems, in spite of setting up weekly tasks or checking in on a weekly basis by e-mail with students. This finding is in line with David Noble' s research.

To be perfectly fair, some of the problems were probably caused by a university system that was not yet ready for Web course delivery. I had assumed (probably foolishly) that when students signed up for Web course, they were given the URL for the course. I had also assumed that instructors would be given the students' e-mail addresses. This was not the case. Many frantic telephone calls by students to me and to my colleague that actually taught the course, and many phone calls by us to students to try to get e-mail addresses caused a delay for several in getting started. I think that some students felt they would be unable to complete the tasks in a timely fashion, given the late start for several students. On the other hand, some of the students that had withdrawn or taken incompletes and took the class face-to-face winter or spring described their need to be in a classroom with an instructor, as "I just don't do Web very well" or "I need to be face-to-face with a teacher."

Personal Costs

For me, the personal costs have been numerous. These costs involved time, stress, money, and health.

Time First of all has been the cost of time. The year we were to develop Web courses, we were all told that our course load was seven FTE, up one from six the previous year. By doing the Web course, we would be relieved of one course. I willingly agreed and was relieved of one course winter term, thinking this would be an exciting area to learn about. I attended eight two-hour "business meetings" for the education faculty (I was unable to attend all business meetings because I had classes during several of these sessions) and a year-end four-hour "Web show," resulting from receipt of Web course development funding from OSU's president. In these business meetings, we were encouraged to create Web modules consisting of four tasks and a capstone task, we were introduced to a simplified HTML program called *Homesite*, and other related topics.

To get started, I worked with two small groups of interested students in two classes (Ed. Foundations and Ed. Psych.) fall term, for a total of 16 1/2 hours to think about prototypes for Web courses. At the time, I did not have concrete ideas about what these courses might be like and the students led me. I searched the Internet for Web courses in educational psychology and foundations of education. The one I liked most had been funded by several major grants and was elegant and easy to grasp, but intimidating. It had obviously taken a great deal of time and effort to create this course. Finally, my colleague Judy Gelbrich and I began conceptualizing the Education Foundations course. We made the decision to put all course material on the Web, based on the cost of the textbook.

Judy was far more practiced then I at using the Web and she found numerous historical sites that could serve as links for us. I began to design the module tasks. As I worked with her, I gained confidence and began to conceptualize how historical and philosophical pieces could fit together in one module, while the social, political, and economic aspects fitted together in a second. The course was supposed to be completed by the end of winter term. However, only a beginning had been made in spite of a huge investment of time. I struggled through a very intense spring term, trying to find extra hours to put into this course. Between my work with Judy and my work winter and spring terms, I recorded 72 hours in my diary. I finally realized that it would take a great deal of my summer to complete the work needed for even the bare course shell. Unfortunately, I did not log the summer hours, nor hours at home, but it was at least that many again, plus over 20 hours I spent discussing the course and reviewing the designs with my son twice, who put the course into HTML format. In summary, I put at least 300 hours and Judy at least 200 hours into the development of this two-credit educational foundations course. This is far beyond the number of hours I would have spent in teaching the class I was relieved of instructing and a huge time commitment from Judy who did it out of the goodness of her heart.

Stress Of course, lack of time has a lot to do with the stress I experienced. I felt terribly guilty that had not completed the work by the end of winter term when it was expected, nor had begun the Web course I had planned to complete in educational psychology. It was at one of our business meetings early in spring term that we began to talk about the realities of creating Web courses. Fortunately, our assistant administrator took a realistic view of the effort we had put in and the complexities of Web course development. She modified the timelines to be more realistic and eliminated my responsibilities for the development of the Ed psych course. I began to realize that the glamorous course I wanted to create was probably a dream not to be realized, as I did not have the funding, tech support, or time to make it happen. To add to the stress, during winter term, I had agreed to develop a Web course in gifted education, my area of greatest expertise. For this, I was to be paid $1500 for summer work. I felt terribly guilty that I had only made a beginning on this new course, but could not focus on it with the Ed foundations course needing to be taught by Web for fall term. My effort simply had to be put into that arena.

Money By the time I was getting the basic structure of the course completed, I was having more and more difficulty with my hands. It was taking so much time and effort to develop the course text materials. I knew I did not have time to master HTML, nor did I have the physical possibilities to do so. I therefore decided to pay my son, a student in computer studies, to develop the HTML aspects of the Ed Foundations Web course for me. From April through September, 1999 at $8.50 an hour, I paid him a total of $1,268. He did a terrific job, but it took most of the money I earned for supposedly developing the Web course in gifted education during the summer, as well as almost $4000 in his tuition costs. I still owe the University the Web course in gifted education, which needs to be developed largely at my own cost. My son and I are beginning to work on this task now.

Health A major problem that has resulted from overuse of the computer has been progressive difficulties using my hands. Following carpal tunnel surgery on both hands in February, 1998, I continued to work at the computer, thinking that my problems were solved. Instead, I have become legally disabled. I have experienced incredible pain cycles and the inability to use my fingers for much of anything. My physician now believes that I have RSD (reflex sympathetic dystrophy), a degeneration of the nerves typically associated with physical trauma. I am unable to use the computer with my hands at all now, and am learning to use voice-activated software, which is a topic in itself. The sheer amount of work involved in developing the course (some 115 pages) plus the stress did not help the situation.

Although I think there is potential for Web course instruction, particularly for students who must be at a distance or who are highly verbal and have the computer access, the development of this course has led me to similar conclusions of David Noble. I believe that the dreams and gleams in administrators' eyes of

big bucks are illusions. Like Darth Vader, have I persuaded you come to, or at least consider, the "dark side" of Web-based instruction?